

Studying organizations within the field of complexity

The study of complexity is approached as a multidisciplinary study, but not of equal partners. What is understood about complexity within the physical sciences is applied to learning about complexity within the biological sciences, and then the combined learning applied to the social sciences. The only frequent exception is the study of evolution, which is often treated as a separate theoretical study. Nevertheless, the study of complexity within social organizations is often seen as a higher order study building on the natural sciences and understanding can only come from learning gained at lower levels. Yet at least one author (can't remember the reference) goes so far as to have said the understandings from the physical and biological sciences can only be applied to the social sciences by analogy since the theory developed in the hard sciences may not translate directly to the social sciences. That is to say that there is no acceptance of a unified theory of complexity and any generalization should be seen as suspect, but that the learning starts with the natural sciences. This has put the social sciences in the position of observing researchers in the hard sciences and then relating their theories through examples that fit within the generalizations that are implied, but always one-off. However, Goldstein, Allen, and Snowden (2004, p. vi) turn this on its head when they said

organizations are a particularly apt place to study the dynamics of complexity since they abound in networks of connectivities, scaling phenomena, self-organization, and the consistent emergence of new structures with new properties. Organizations are also directly accessible and observable without the need for special devices observational technologies.

Instead of following, the social sciences can actually take the lead in studying complexity, the same way they led with developing new statistical techniques. Instead of testing theories developed in the natural sciences to social situations, social scientists are encouraged to step out and lead the research in complexity so that the other sciences might learn from them. This approach can be likened to a fractal approach. Just as a fractal is self-similar at different scales, so might complexity be similarly seen at different levels when moving from the physical to the biological to the social sciences. Understanding the pattern at any level provides insight to the likely pattern at another level both up and downward in scale.

Goldstein, J., Allen, P., & Snowden, D. (2004). Editor's introduction. E:CO [Online], 6(1-2), v-vii. URL: http://www.emergence.org/ECO_site/ECO_Archive/Issue_6_1-2/Editorial.pdf

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